

We claim:

- 5 1. A security gate operating system apparatus, comprising:
a security gate capable of motion between a closed position and an open
position;
a drive mechanism attached to the security gate and adapted to provide a
driving force to the security gate to move the security gate between the closed
10 position and the open position;
an electrical drive motor having a drive shaft connected directly to the drive
mechanism without a reduction gear between the drive motor and the drive
mechanism.
- 15 2. The apparatus of claim 1, wherein the drive motor is a reluctance motor.
3. The apparatus of claim 1 wherein the drive motor is a switched reluctance motor.
4. The apparatus of claim 2 wherein the drive motor is a switched reluctance motor.
- 20 5. The apparatus of claim 1 wherein the drive motor is a three phase switched
reluctance motor.
6. The apparatus of claim 2 wherein the drive motor is a three phase switched
25 reluctance motor.
7. The apparatus of claim 3 wherein the drive motor is a three phase switched
reluctance motor.
- 30 8. The apparatus of claim 4 wherein the drive motor is a three phase switched
reluctance motor.
9. The apparatus of claim 1, wherein the drive mechanism comprises:
a drive chain operatively connected to the security gate;
35 a drive sprocket attached directly to the shaft of the drive motor, with the
drive sprocket in operative connection to the drive chain.

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a drive chain operatively connected to the security gate;

5 drive sprocket in operative connection to the drive chain.

a drive chain operatively connected to the security gate;

10 drive sprocket in operative connection to the drive chain.

a drive chain operatively connected to the security gate;

1.5 drive sprocket in operative connection to the drive chain.

a drive chain operatively connected to the security gate;

20 drive sprocket in operative connection to the drive chain.

a drive chain operatively connected to the security gate;

25 drive sprocket in operative connection to the drive chain.

a drive chain operatively connected to the security gate;

30 drive sprocket in operative connection to the drive chain.

a drive chain operatively connected to the security gate;

35 drive sprocket in operative connection to the drive chain.

17. The apparatus of claim 1 wherein the drive mechanism comprises:

at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.

5 18. The apparatus of claim 2 wherein the drive mechanism comprises:

at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.

19. The apparatus of claim 3 wherein the drive mechanism comprises:

10 at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.

20. The apparatus of claim 4 wherein the drive mechanism comprises:

15 at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.

21. The apparatus of claim 5 wherein the drive mechanism comprises:

20 at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.

22. The apparatus of claim 6 wherein the drive mechanism comprises:

at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.

25 23. The apparatus of claim 7 wherein the drive mechanism comprises:

at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.

24. The apparatus of claim 8 wherein the drive mechanism comprises:

30 at least one drive arm directly connected to the drive motor shaft and
operatively connected to the security gate.

25. A method of operating a security gate, comprising:

35 providing a security gate capable of motion between a closed position and
an open position;
utilizing a drive mechanism attached to the security gate to provide a driving

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force to the security gate to move the security gate between the closed position and the open position;

utilizing an electrical drive motor having a drive shaft connected directly to the drive mechanism without a reduction gear between the drive motor and the drive mechanism.

26. The method of claim 25, wherein the drive motor is a reluctance motor.

27. The method of claim 25 wherein the drive motor is a switched reluctance motor.

28. The method of claim 26 wherein the drive motor is a switched reluctance motor.

29. The method of claim 25 wherein the drive motor is a three phase switched reluctance motor.

30. The apparatus of claim 26 wherein the drive motor is a three phase switched reluctance motor.

31. A security gate operating system, comprising:

a security gate capable of motion between a closed position and an open position;

a drive mechanism attached to the security gate and adapted to provide a driving force to the security gate to move the security gate between the closed position and the open position;

an electrical drive motor where the drive motor is a reluctance motor having a drive shaft connected to the drive mechanism

32. The apparatus of claim 31 wherein the drive motor is a switched reluctance motor.

33. The apparatus of claim 31 wherein the drive motor is a three phase switched reluctance motor.

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